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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,003	12/28/2001	Masayuki Segawa	041094-5015	4446

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EXAMINER

PATEL, VIP

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/937,003

Applicant(s)
Segawa et al

Examiner
Vip Patel

Art Unit
2879



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Disclosure Information

The examiner has considered and initialed form PTO-1449 for references which publication date are readily available. Other listed reference are crossed out and not considered.

Claim Objections

Claims 5-8 are objected to because of the following reasons. In line 2 of claim 5, "good" should be deleted before thermal conduction core since such does not define specific degree of conduction. Similar situations appear in claims 5, 6, 7, 8.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 2 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, the applicant claims specific amount of Rh, Pt, Ru, and Ir. It is not clear at all as to what exactly applicant is excluding or including with usage of "or" "and" in the claim.

Regarding claim 2, claim 2 is informal (see rejection of claim 2 under 35 USC 112, second paragraph above) that no meaningful examination on the merits of the claim can be undertaken at this time. See MPEP 702.01

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Takamura (US 5488262).

Regarding claim 1, Takamura discloses a sparkplug (figure 6) comprising a center electrode (25) having a basic body and a first tip (40), a ground electrode (30) having a base, an inter layer (41), and a second tip (40). The first and second tip are made of Ir (line 62 of column 4). A thermal expansion coefficient of the inter layer is between the a thermal expansion coefficient of the base and the second tip (line 44 of column 3).

As per claim 4, a whole surface of the inter layer is covered by the second tip (see figure 6).

Claim 1 are rejected under 35 U.S.C. § 102(b) as being anticipated by Kagawa (JP 402242577A).

Kagawa discloses a sparkplug (figure 2) comprising a center electrode (3) having a basic body and a first tip (4), a ground electrode (5) having a base (8), an inter layer (7), and a second tip (4'). The first and second tip are made of Ir (see

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abstract). A thermal expansion coefficient of the inter layer is between the a thermal expansion coefficient of the base and the second tip (see abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 5-8, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamura (US 5488262) or Kagawa (JP 402242577A) and common knowledge in the art.

Regarding claim 3, Takamura or Kagawa discloses all the limitations of claim 3 except a specific thermal expansion coefficient for the interlayer. However Takamura or Kagawa have specifically taught the interlayer having the thermal expansion coefficient between that of materials of a tip and base material. It has been ruled that finding an optimum range withing such given range is routine and withing ordinary skill in the art. Thus, it would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to obtain such thermal expansion coefficient for the devices of Takamura or Kagawa.

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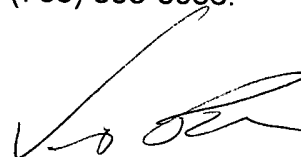
Regarding claims 5-8, Takamura or Kagawa discloses all the limitations except a thermal conduction core in the ground electrode. However, such thermal conduction core is notoriously known in the art of sparkplug for passing heat down/away from a tip region. Thus, it would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to provide a known thermal conduction core for the devices of Takamura or Kagawa for passing heat down/away from a tip region.

Regarding claim 9-10, the limitations of how body/interlayer and tip are joined (ie by laser welding or electric resistance welding) are directed to the process of making the sparkplug and thus not deemed positive product limitation. Accordingly, no patentable weight has been given to such limitations (see MPEP 2113).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vip Patel whose telephone number is (703) 305-4846. The examiner can normally be reached on Tuesday-Thursday during regular working hours. The fax phone number for this Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.



**VIP PATEL
PRIMARY EXAMINER
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